work. This led him to study the question of road-making and road-testing, and he devised an ingenious instrument, called the viagraph, which gives a trace of the contour of the road-surface and a numerical value for its "bumpiness."

Mr. Brown will be much missed in Belfast, where he did a great deal to kindle and keep alive scientific interests in the community, and where his personality and ability won him much influence and popularity.

W. B. M.

THE SOLAR PHYSICS OBSERVATORY.

THE *Cambridge University Reporter* gives an account of the action taken by the Council of the Senate on this subject. None of the scientific questions we referred to in the article in last week's NATURE are touched upon, including the all-important question of the site, and the dismissal of the staff which for the last thirty years has done work which has received world-wide approval, on a programme which has been followed in the newer institutions.

One of the points insisted upon is how the University is to find the 600*l.* a year, representing a capital sum of 15,000*l.* or 30,000*l.*, according as we reckon the interest at 4 or 2 per cent., which the Treasury demands in return for the capital sum of 5500*l.* to be inserted in the estimates for the new installation.

We confess we look with dismay upon the proposal. We trust the Senate will well consider it in all its bearings. It is not the fault of the Senate that Cambridge can never be a fit site for an observatory occupied in the work demanded by modern physical inquiries, but it will be its fault if it acts as a cat's-paw of the Treasury in aiding the detachment of national scientific work from the direct control of a Government spending department with a voice in the Cabinet; in agreeing to administer the needs of a rapidly growing branch of science for a fixed sum based only on the present needs; and in endorsing the view that its future alumni when appointed directors of national observatories are sufficiently remunerated by a stipend of 200*l.* a year.

NOTES.

IN reply to an inquiry as to the award of the Nobel prizes, Prof. Svante Arrhenius has kindly sent us the following information:—(1) *Prize for medicine:* awarded on October 21, the birthday of Dr. Alfr. Nobel, by the Carolinian Institute (faculty of medicine) in Stockholm to Dr. Allvar Gullstrand (born 1862), professor of ophthalmology in the University of Upsala, Sweden, for his investigations in physiological optics. (2) *Prize for physics:* awarded on November 7 by the Royal Academy of Sciences, Stockholm, to Dr. Willy Wien (born 1864), professor of physics at the University of Würzburg, Bavaria, for his discoveries regarding the laws of radiation. (3) *Prize for chemistry:* awarded on November 7 by the Royal Academy of Sciences, Stockholm, to Mme. Marie Curie (born 1867), professor of physics in the University of Paris (Sorbonne), for her discoveries of the chemical elements radium and polonium, and her investigations regarding their chemical properties. Mme. Curie received, together with her husband, the half of the Nobel prize for physics in 1903 for their investigations regarding the Becquerel rays. (4) *Prize for literature:* awarded on November 9 by the Royal Swedish Academy of Literature, Stockholm, to Maurice Maeterlinck (born 1862). The prize for work in the cause of peace will probably not be awarded before December 10, the day of Dr. A. Nobel's death, by the Storthing (Parliament) in Christiania, Norway.

WE notice with regret the announcement that Dr. R. D. Roberts, Registrar of the Board for the Extension of University Teaching, University of London, and secretary and lecturer to the Gilchrist Educational Trust, died suddenly on November 14, at sixty years of age. Dr. Roberts was widely known and esteemed, and his death will come as a great shock to all those who were brought into association with him. An obituary notice in *The Times* gives the following particulars of his career. He was educated at University College, London, and Clare College, Cambridge, of which he was a foundation scholar and later a fellow. He was also a fellow of University College. His university career was a brilliant one. At University College, where he took the D.Sc. degree in 1878, he carried off the university scholarship in geology, and at Cambridge he took a first class in the natural sciences tripos. In 1879 Dr. Roberts was appointed university lecturer in geology at Cambridge, having previously been an examiner in that subject. Six years later he became secretary to the London Society for the Extension of University Teaching, and afterwards secretary for lectures of the Local Examinations and Lectures Syndicate, Cambridge, before taking up his work at the University of London. The fruits of his wide experience were gathered in his book "Eighteen Years of University Extension," and he also wrote "An Introduction to Modern Geology." As secretary to the Congress of the Universities of the Empire, which is to be held in London next year, his work of organisation has been of great value.

THE Royal Scottish Geographical Society has awarded the gold medal of the society to Mr. J. Y. Buchanan, F.R.S., for his distinguished services to geography, especially in connection with oceanographical research.

MR. R. J. GODLEE has been elected president of the Royal College of Surgeons of England, in succession to Sir Henry Butlin, Bart., who has resigned that office on account of ill-health.

THE Paris correspondent of *The Times* reports that the French Government has conferred upon Halil Bey, director of the Imperial Museum at Constantinople, the rank of Commander in the Legion of Honour, and the rank of Officer upon Prof. Lowell, president of Harvard University.

MR. ARTHUR COOPER, of Middlesbrough, has been elected to succeed the Duke of Devonshire in the presidency of the Iron and Steel Institute next May. Mr. Cooper was awarded the Bessemer gold medal of the institute in 1892 for his services to the metallurgy of iron and steel.

THE Berlin correspondent of *The Times* announces the death, at seventy-four years of age, of Dr. Bernhard Fränkel, who enjoyed a European reputation in his own subject of laryngology, both as a practitioner in Berlin and as the author of many scientific works, and the inventor of improved methods and instruments.

A REUTER message from New York states that Mr. Andrew Carnegie has given the Carnegie Corporation, which was organised on November 10, 5,000,000*l.* in gold bonds of the Steel Corporation. The corporation has been founded for the purpose of the advancement and diffusion of knowledge and understanding in the United States, for the formation of a hero fund, and other purposes.

THE Jean Reynaud prize of ten thousand francs, which is awarded by the Paris Academy of Sciences every five years for the work of an eminent savant, has been awarded this year to Prof. Emile Picard, professor at the Sorbonne and at the Ecole Centrale. Previous awards of the prize have been to MM. Lippmann, Henri Poincaré, and Pierre Curie.

THE De Morgan medal of the London Mathematical Society has been awarded to Prof. Horace Lamb, F.R.S., for his researches in mathematical physics. At the annual general meeting of the society, held on November 9, the following were elected to be the council and officers for the session 1911–12 :—*President*, Dr. H. F. Baker; *vice-presidents*, Mr. J. E. Campbell and Prof. A. E. H. Love; *treasurer*, Prof. Sir J. Larmor; *secretaries*, Mr. J. H. Grace and Dr. T. J. I'A. Bromwich; *other members of the council*, Mr. G. T. Bennett, Prof. W. Burnside, Mr. E. Cunningham, Mr. A. L. Dixon, Dr. L. N. G. Filon, Mr. J. H. Jeans, Mr. J. E. Littlewood, Prof. H. M. Macdonald, Major P. A. MacMahon, and Mr. A. E. Western.

THE disease known as "infantile paralysis" has recently been added to the list of notifiable infectious diseases in London by an order under the Public Health Act. This disease, known medically as acute anterior polio-myelitis, was referred to in our "Notes" columns of October 12 (p. 494), and, though probably not existing in London at the present time, was epidemic in the Plymouth district this summer. In this epidemic, an account of which was given by Dr. Bertram Soltau in *The British Medical Journal* of November 4, 154 cases were notified between May and September, of which 34 died, a case mortality of 22 per cent. The disease may therefore be an important one, and sanitary authorities will do well to be on the look-out for it and to exercise the option they possess of making it notifiable.

THE death is announced, at the age of eighty-four, of Mr. Daniel F. Drawbaugh, a veteran American inventor. He was a self-taught man, and worked in his early years as a clockmaker in his native village in Pennsylvania. He became an enthusiast on the subject of physics, and made electrical apparatus a special study. In 1860 he devised an instrument for the electrical transmission of speech, and in 1870 claimed to have invented a magneto-transmitter similar to Bell's. In 1881 his claim to be the inventor of the telephone was adversely decided in the courts, his interests being represented by the People's Telephone Co., against which the Bell Co. brought a suit. Mr. Drawbaugh made only a moderate fortune with his inventions, which included an interchangeable telephone and telegraph apparatus, the collapsible lunch-box, the first nail-making machine, higher grade electrical grain-weighing devices, and various pneumatic tools.

THE following announcements have just been made by the Meteorological Office :—Mr. G. I. Taylor, fellow of Trinity College, Cambridge, Smith's prizeman, 1910, has been appointed Schuster reader in dynamical meteorology for three years from January 1, 1912; Mr. L. Southerns, of Emmanuel College, Cambridge, has been appointed special assistant at Eskdale Observatory; Mr. G. Dobson, research student of Gonville and Caius College, Cambridge, has been appointed graduate assistant for research in atmospheric electricity for one year from October 1, 1911. Dr. Arthur Schuster, F.R.S., has presented to the Eskdale Observatory an instrument, made in St. Petersburg from designs by Prince Boris Galitzin, for the registration of the vertical component of seismic movements. Dr. Schuster had previously presented corresponding instruments for registering the horizontal component, so that all three components are now the subject of continuous registration.

THE death is announced, in his seventy-first year, of Mr. Holt S. Hallett, who was widely known as an engineer and traveller. From 1860 to 1868 Mr. Hallett assisted in the construction of railways in Lancashire and Cheshire. In 1868 he entered the Indian Public Works Department, and was employed in the construction of the oldest line in Burma, that from Rangoon to Prome, which was completed in 1877. He retired from the public service in 1880, and was soon engaged in the exploration of the little known country between Moulmein and Kiang Hsen on the Mekong for a railway route into Siam, and made a survey for a branch line to Bangkok. He explored about 2500 miles of country, and discovered the sources of the Menam. The general results of his explorations were laid before the Royal Geographical Society in 1883, and an account of his work is to be found in his "A Thousand Miles on an Elephant." He revisited Siam, Burma, and India in 1885, and at the request of the Foreign Office and the War Office sent in a report, with maps, bearing on the political state of affairs in Indo-China. In 1887 Mr. Hallett received the silver medal of the Socity of Arts for a paper on new markets and the extension of railways of India and Burma.

A POINT which is now agitating the aëronautical industrial world is one that is down for discussion on the agenda of the International Aëronautical Federation, which meets at Turin on November 25. It is, briefly, that it should be made compulsory for aëroplane manufacturers to submit a specimen machine of each type made by them to the representatives of the International Aëronautical Federation, *i.e.* the Aëro Club, in their respective countries in order to receive a certificate of soundness of construction. It will be obvious at once that at the present time such a rule is absurd, for the chief reason that, for instance, in this country only the manufacturers themselves are capable of passing an expert opinion on the merits of any machine submitted. Furthermore, if carried out, it would shift responsibility from the manufacturers to the aëro clubs, which are privately organised bodies, and it would tend to confine the manufacture of machines to certain standard types and close the way to originality and progress. Manufacturers are already up in arms in this country against this extraordinary measure, which, it may be stated, has its origin in France, and it is to be hoped that the delegates of the Royal Aëro Club will receive instructions to oppose it to the utmost. In such attitude they will, no doubt, have the support not only of the club they represent, but also of the German and Italian organisations.

AT the meeting of the Concrete Institute held on November 9, Sir Henry Tanner, C.B., delivered his presidential address. During the course of his remarks he said that the membership of the institute is now about 875, and that during the eighteen months ending in June last the net gain was twenty-one. There is no institution, he pointed out, concerned particularly with structural engineering; and the committee of the institute has been empowered to take steps to foster structural engineering, and thus in future the Concrete Institute will be an institution of structural engineers as well. Sir Henry Tanner went on to say that the Institution of Civil Engineers has taken up the subject of reinforced concrete, and a considerable sum of money has been devoted to experiments which are in process of being carried out. There is no doubt, he said, that experiments are needed in this country to obtain a consistent and complete series based on materials to be obtained here and mixed and tested under similar conditions. At the present time we have to rely on experiments in America, Germany, and France with cement of varying character, and it would be of the greatest advantage if these could be repeated in some cases at intervals, the improvement in strength being so great for some years. Later in the address he referred to the committee appointed by the Board of Education to inquire into the question of economy in building, and as to whether buildings of a more temporary nature could not be brought into use. Reinforced concrete came in for its share of the discussion by the committee; but the estimates of cost varied largely, from 33 per cent. less to 10 per cent. more than for ordinary building. No difference of locality will account for these variations. Witnesses having a more intimate knowledge of the cost of such buildings might have been called. It is little good encouraging specific proposals for the use of novel materials while local by-laws make no provision proper to the use of reinforced concrete. In order, however, to remove this difficulty, it has been suggested that legislation should be promoted to exempt school buildings, the plans of which had been approved by the Board of Education, from the operation of local building by-laws.

A PAPER on a novel and important subject appears in *The Naturalist* for November. The writer, the Rev. Hilderic Friend, has brought together some interesting facts relating to *Octolasium gracile*, Oerley, which is usually found very sparsely, but at Sutton Broad is the dominant Allolobophora; and *Aporrectodea similis*, Friend, a species which is at present known only from the Kew Gardens. An account of the species of Fridericia found at the Eel Hut, where the River Ant enters the Barton Broad, is also very suggestive. Out of twenty-four Euchytræids, belonging to six different species, twenty-two were Fridericias, belonging to five species, of which two have not been observed hitherto in England. One question to be solved is, Does each species do the same work as all the rest, or does one prepare the way for the others?

MR. O. A. RHOUSOPOULOS contributes to vol. ii., No. 5, of *The Museums Journal* an important article on the methods of cleaning and preserving antiquities. The most frequently recurring objects which need preservation are those of copper or copper alloys. For these various methods are considered: soaking in distilled water; saturation with paraffin; reduction treatment by heating in a current of hydrogen, by an electric current in a bath of potassium cyanide or caustic soda. Some of the above methods, which in their present perfection leave little to be desired, may be applied to gold, silver, and their alloys; but the use of a solution of potassium cyanide yields better and more rapid results. Wood and fibres are soaked with antiseptic solutions, and finally receive a coating of celluloid varnish. The article ends with many valuable suggestions for the treatment of objects of iron, lecythi and other coloured earthenware, marble, and porous limestone. The instructions throughout are practical and detailed, and the article may be commended to the attention of all curators of museums.

THE Sutton Broad Biological Laboratory, started in 1902 by Sir Eustace Gurney, and, we believe, still the only fresh-water biological laboratory in this country, has so far well justified its existence. In the current number of the Transactions of the Norfolk and Norwich Naturalists' Society are two papers, emanating from this laboratory, which are of especial interest with reference to the much debated question as to what constitutes "tide" on the Norfolk Broads. For several years past observations, made with a portable recording tide-gauge, have been kept at the laboratory by Mr. Robert Gurney; and in the publication referred to these have been incorporated into a paper, well illustrated with charts. In the same journal Mr. A. G. Innes contributes a paper on the distribution of salt in the River Bure and its tributaries; and, taken together, these two papers are a valuable addition to our knowledge on the subject.

THE report of the Northumberland Sea Fisheries Committee on the scientific investigations conducted under its auspices during the year 1910 and up to June 15, 1911, has now appeared under the editorship of Prof. Alexander Meek, of the Armstrong College, Newcastle-upon-Tyne. It includes some interesting observations on mesmerising lobsters and other crustaceans. It is known that a lobster may be put into a comatose condition by rubbing it along the back of the carapace. The usual way is to hold the lobster head down, with the claws arranged so as to form a support with the rostrum, and to stroke it rapidly with the tips of the fingers. In about a minute the lobster succumbs, and remains without movement in this position for a variable period. With a view to see whether the reversed position, as determining the blood to the head, was essential, a lobster was treated in the horizontal attitude, and so successfully that it remained without movement for three hours. A Norway lobster subjected to a similar treatment was quiescent for fifty-five minutes. A lobster can be put to sleep on its back. The crab goes to sleep usually in the tucked-up condition—and may be left in the natural position or on its back. They all recover when disturbed; but the recovery of the lobster appears to be quicker if the undersurface of the cephalo-thorax is disturbed. Placed in sea water lobsters recover immediately, but in one such case a crab took ten minutes to come round completely. During the sleep the scaphognathite is in action all the time.

MR. E. J. SHEPPARD contributes to the Journal of the Royal Microscopical Society for October observations on the reappearance of the nucleolus in mitosis. He finds that, in the dividing cells of hyacinth and other plants, there appear, at the close of the diaster stage, one or more loops of chromatin in each future daughter nucleus. At a little later stage, when the division of the cell is well marked, the nucleolus makes its appearance, apparently by a streaming, into the area enclosed by the loop, of material from the chromatin. Mr. Sheppard has not been able to trace corresponding changes in the loop-areas of animal cells. He regards the nucleolus as inciting or stimulating the process of mitosis.

DEALING with the subject of alpine gardens in a lecture published in the Journal of the Royal Horticultural Society (vol. xxxvii., part i.), the Swiss botanist M. H. Correvon states that the English climate suits alpine plants better than the continental climate in Switzerland, except such tufted dwarf plants as the species of Eritrichium and Androsace. This statement follows upon a description of the chief features observed in the gardens at Friar Park, Leonardslee, and other notable alpine gardens in Great Britain. Reference is made to the interesting Swiss garden of the Linnaea at Bourg-St.-Pierre in the Valais, where the choicest developments are the masses of *Papaver alpinum*, superb growths of *Eryngium alpinum*, *Heuchera sanguinea*, and *Epilobium latifolium* and abundance of edelweiss. M. Correvon claims for his countrymen the superiority in plant culture on walls, where saxifrages, androsaces, campanulas, and other suitable plants can be induced to make a brilliant show; he also mentions that the walls bordering the mountain railways from Territet to Glyon and Vevey to Pèlerin have been so planted.

IN *The Agricultural Journal of India*, part iii., Mr. Keatinge continues his account of the rural economy of the Bombay Deccan, dealing specially with the livestock.

Great improvements seem to be possible. Ponies, which once had a high reputation, are now poor; goats and sheep do not bring in anything like the profit they might; whilst the cattle also appear to have deteriorated during the past fifty years. These changes are largely attributed to the large increase in cultivated ground and the consequent reduction in the grazing area. An interesting account of grape-growing round Peshawar, accompanied by some good illustrations, is given by Mr. Robertson-Brown.

The cultivation of cacao is a highly important industry in Trinidad, where also the great bulk of the planters are peasant proprietors. Hence the problem before the staff of the Department of Agriculture is of a dual nature; new methods have to be worked out for improving yields and coping with pests, and these methods have to be brought to the notice of the grower. In a batch of circulars recently to hand instructions are given in the methods of cultivation calculated best to suit a small proprietor. The entomological and mycological notes by Messrs. Guppy and Urich will be found of more general interest. It is stated that leaf-eating beetles were very common last year, particularly *Neobrotica colaspis*; pod-hunters (*Horiola arcuata*) have also been locally numerous.

In Bulletin No. 7 of the Commonwealth Bureau of Meteorology the climate of the proposed Federal Capital Territory at Yass-Canberra, in New South Wales, is dealt with. Besides a few preliminary paragraphs, the whole Bulletin is devoted to tables of the mean monthly values for twelve stations, and the average maximum and mean rainfall for a considerably larger number. Rainfall and temperature data are also shown for an area of about eight square degrees on a map, which might conveniently have been on a smaller scale, the isotherms being drawn in by interpolation from the twelve observing stations and by employing corrections of 1° F. for each 300 feet of altitude and each degree of latitude. No. 8 Bulletin of the same Bureau deals with the physiography of the same area. Mr. G. Taylor treats by the modern explanatory method the landforms for a radius of about 20 miles round Canberra. Various parts are first described in their present condition, after which the past development of the region is worked out. An ancient peneplain was uplifted for some 800 feet and then maturely eroded, after which a period of unrest set in, during which blocks have been tilted, and the drainage system thereby considerably modified, numerous cases of river-capture occurring. The report is illustrated by sketch-maps and diagrams, and gives a good idea of the area, which would have been improved by a short general description of the main features of this part of New South Wales.

In Heft No. 9 of the *Mitteilungen der k.k. Geographischen Gesellschaft* of Vienna an account is given of the May cruise of the surveying ship *Najade*. Soundings were taken on the line Brindisi-Durazzo, and the considerable depths which observations in 1877 had indicated were not borne out. In lat. 41° 15′ N. and long. 18° 15′ previous soundings of 1500 and 1600 metres are replaced by more correct values of from 1000 to 1100 metres. The greatest depth of the Adriatic, hitherto given as 1645 metres, is now to be taken as 1132 metres somewhat to the north of the point previously indicated in the basin between Novi and Cattaro or Ragusa. A brief summary of the biological work is also given.

In the November number of *The Geographical Journal* there appears a map of Africa on which are shown in different grades of colour the portions systematically surveyed, those mapped by good route traverses, and the areas which are but roughly mapped or known only by report. While the second class covers a large area, systematic survey is limited to frontier lines and to areas in Algeria, Egypt, Uganda, South Africa, and a few other points. There still remain vast areas both for exploration in its true sense and for systematic study, and if a corresponding map had been prepared to show our knowledge of the continent from other points of view than its topography the scope for investigation would be seen to be even wider than appears from the present map.

In the *Zeitschrift der Gesellschaft für Erdkunde* (No. 7) Prof. K. Kretschner completes his survey of the manuscript maps of the National Library at Paris. These date mostly from the sixteenth and seventeenth centuries, and are of the class known as compass charts or portolan maps. While some bear the name of the author, many are anonymous; and maps of both classes are described in the present article, which deals only with those hitherto unknown or which have been very imperfectly treated. The investigation was undertaken in order to improve our knowledge of this portion of early cartography by examining, so far as possible, all the maps preserved in different countries or cities, as has been very completely done for Italy and largely carried out in Germany.

The October number of *Le Radium* contains a short note by Madame Curie on the variation with time of the activity of some radio-active substances. The measurements have extended over several years, and the results given have been standardised by the use of the piezo-electric charge on quartz. The black oxide of uranium tested for four years in an ionisation chamber in which the whole of the α radiation was absorbed showed no change. Actinium showed a decrease of activity of about 10 per cent. in three years; and Madame Curie assigns to it a mean life of thirty years. Radium, purified from emanation and from traces of radium D, E, and F, was tested by means of its β and γ radiation, and found to increase in activity 5 per cent. in two years. Madame Curie attributes this increase to the formation of radium E. Radium D, purified from radium E and F, appears to have a life of about twenty-five years. The measurements are being continued so that the changes observed in succeeding years may be determined.

In the July number of the Tokio *Sugaku-Buturigakkwai Kizi* Mr. S. Nakamura describes a panoramic camera by means of which the whole horizon (360°) can be photographed on a stationary film, which is bent into a cylinder and suitably supported inside the camera wall. In order to get the image on the film it is necessary to have two reflecting surfaces parallel to each other and inclined at an angle of 45° with the vertical axis of the camera, the one above the camera to receive the light from the view, and the other within to receive it from the upper mirror and reflect it to the film. The lens may be horizontally in front of either of the reflectors or vertically between them, and in making an exposure the complete optical system revolves on its vertical axis. The chief optical condition necessary in all such apparatus is that the second nodal point of the objective must be at the centre of rotation, and in this case in the centre of the camera. With ordinary photographic objectives, in which the nodal points lie within the objective itself, it is difficult, if not impossible, to fulfil this condition in these circumstances. The author therefore uses a lens which consists of a negative as well as a positive combination, as in telephotographic lenses, so that the nodal points are thrown well outside the objective; it is then only a matter of construction to fulfil every necessary condition. The camera may be compared to a large pill-box, but the lid, which carries the rotating optical system, is as deep as the box within which the film is held by two rings, one notched or marked to indicate on the photograph the azimuths of the objects on the picture. A right-angled prism is preferred for the upper reflector, and the rotation is done by hand by means of a toothed wheel and endless screw.

THE first annual report of the Road Board, established under the powers of the Finance Act of 1909, has been recently published. This Board was formed for the purpose of improving the main roads of this country, rendered necessary by the general adoption of motor vehicles. The funds required for the purposes of the Board are derived from the duties imposed on motor spirit and motor licences levied under the powers of the Act. The applications for aid from local authorities amounted to 7,870,459*l.* Up to the end of June the Board had been able to allocate out of the money placed at its disposal for the first year, 1,161,000*l.*, the sum of 270,824*l.* This sum was to be applied to the improvement of main roads and important connecting roads passing through rural areas; also to the improvement of the surface of the roads and the alleviation of the nuisance arising from mud and dust due to motor traffic, and to bringing the road surfaces up to such a standard of construction that the cost of future upkeep to the local authorities may be brought within the means available from local sources. For this purpose the Board has sanctioned the use of bituminous binding material, and has issued general directions and specifications relating to the treatment of road surfaces. The Board has also taken steps to establish at the National Physical Laboratory at Teddington a laboratory for testing the value of different kinds of stone used for road repairs. This work is to be under the direction of the Geological Survey.

A CATALOGUE of gardening books and literature, comprising many early works, has been issued by Messrs. John Wheldon and Co., Great Queen Street, London. The items are arranged under the sections of flower, fruit, kitchen and landscape gardening, trees, conservatory and general treatises.

IN the notice of those volumes of "The Home University Library" published in NATURE of November 9, it was stated that "ten volumes will be issued each year." The publishers, Messrs. Williams and Norgate, ask us to say that the plan of publication is to publish ten volumes in each set at intervals of three or four months. Since April last thirty volumes have been issued, and at least one hundred are planned.

Forthcoming Scientific Books.—In the "Fauna of British India" Series, Canon W. W. Fowler's volume on the Cicindelidæ and Paussidæ, with a general introduction to the Coleoptera, and Mr. E. Brunetti's work on the Nemocera (excluding the Chironomidæ and the Culicidæ), are in the press. The remaining volumes which the editor, Mr. A. E. Shipley, with the assistance of Mr. Guy A. K. Marshall, and with the sanction of the Secretary of State for India, has arranged for in this series are:—volumes on the Orthoptera (Acridiidæ and Locustidæ), by Mr. W. F. Kirby; on butterflies (Lycænidæ and Hesperiidæ), by Mr. H. H. Druce; on the Curculionidæ, by Mr. G. A. K. Marshall; on the Ichneumonidæ, by Mr. Claude Morley; on the longicorn beetles, by Mr. C. J. Gahan; on the Blattidæ, by Mr. R. Shelford; on the Helicidæ, by Lieut.-Colonel H. H. Godwin-Austen; on the Ixodidæ and Argasidæ, by Mr. C. Warburton; on leeches, by Mr. W. A. Harding; on the Meloidæ, by Prof. Creighton Wellman; on the brachyurous Crustacea, by Lieut.-Colonel A. Alcock; and on the Unionidæ, by Mr. H. B. Preston.—Mr. Edward Stanford, official agent for the large-scale Ordnance maps, announces the publication of the first 165 sheets of a new issue on the scale of 50 inches to a mile (1 : 1250). Hitherto, apart from the town plans, the largest scale on which urban districts have been obtainable has been the well-known 25 inches to a mile, and the new issue is based on an enlargement of that map. The larger scale map has been specially prepared for use primarily in connection with land valuation, and the area covered by each sheet is one quarter of that of a 25-inch sheet.—The eighth edition of Fream's "Elements of Agriculture" is to be published by Mr. John Murray. The work of editing has been entrusted to Prof. J. R. Ainsworth Davis, of the Royal Agricultural College, Cirencester, who has considerably extended the scope of the book and brought it up to date.

OUR ASTRONOMICAL COLUMN.

PLANET MT.—The new and interesting minor planet discovered by Dr. Palisa on October 3 has, apparently, been lost again. It will be remembered that Dr. Palisa made observations on October 3 and 4, and Herr Pechüle on the latter date; but bad skies interfered and further observations were prevented. Then the Greenwich observers took a plate on October 25, with the Franklin-Adams camera, which showed apparent images in the supposed position of the planet. However, good plates taken the next night did not confirm this, and there is little doubt that the supposed images are spurious. This is most disappointing, for, as Dr. Crommelin points out in No. 441 of *The Observatory*, the object promised to be of extraordinary interest. The present known data are insufficient for a determination of the orbit, but the observations could be satisfied by assuming an orbit having about the same perihelion distance as Eros, with a slightly greater eccentricity. To explain its apparent disappearance, Dr. Crommelin suggests that, like Eros at some oppositions, this object may be rapidly variable in apparent brightness. Its motion showed it to be very near to the earth, and there is no need to suppose its diameter to be greater than a mile or two. Such small bodies need not be spherical; in fact, they might be discoidal, and would, therefore, suffer considerable changes of apparent brightness. The suggestion that Dr. Palisa's object might be a non-nebulous comet, such as Kopff's, moving in a parabolic orbit, is discounted by its planetary aspect and by the fact that an ellipse would fit the observations.

MARS.—Writing from the Sétif Observatory on November 4, M. Jarry-Desloges announces the appearance of seven fissures, towards M. Acidalium, in the north polar cap of Mars, and states that a bright area was seen on Nerigos.

From the Massegros Observatory, on October 31, it is reported that Juventæ Fons was easily visible, and that Coprates was dull and appeared bifurcated near L. Tithonius; three "lakes" were seen on Coprates, and several small ones on the site of Araxes. The south polar spot is said to be very luminous (*Astronomische Nachrichten*, No. 4534).

EPHEMERIDES FOR VARIOUS COMETS.—Nos. 4533–4 of the *Astronomische Nachrichten* contain ephemerides for Borrelly's (1911*e*), Brooks's (1911*c*), Quénisset's (1911*f*), and Beljawsky's (1911*g*) comets. Borrelly's comet is now just below τ^3 and τ^4 Eridani, and is moving northward at a little more than half a degree per day; it is of about magnitude 13·0. Brooks's comet is now travelling southward through Virgo at nearly a degree a day, and will be near γ Hydræ on November 21; its calculated magnitude now is about 4·5, and it is unlikely to be observed further in these latitudes. Observers in the southern hemisphere should, however, be able to follow it for some time yet.

Quénisset's comet is now near the sun, and practically unobservable; its calculated magnitude is about 7·0, and,